

Claims:

- 1 1. A method of improving the physical performance of a user through  
2 thermoregulation comprising the steps of:  
3 (a) applying a thermoregulating composition of matter to at least one portion of a  
4 user's body, the composition of matter including:  
5 cellulose compound ranging from about 1% to about 3% by weight having an  
6 average molecular weight ranging between about 90,000 and about 700,000  
7 represented by the formula: R--O--COOM, in which "M" is a metal substituted for  
8 hydrogen on said carboxyl group of the cellulosic compound and "R" is cellulosic  
9 chain;  
10 a hydrated metallic salt ranging from about 0.1% to about 0.3% by weight, and  
11 water ranging from about 97% to about 99% by weight; and  
12 (b) performing physical exertion.
- 1 2. The method of claim 1, wherein the thermoregulating composition of matter is  
2 applied to between 2 to about 6 portions of the user's body.
- 1 3. The method of claim 1, wherein the thermoregulating composition of matter is  
2 applied to at least 3 portions of the user's body.
- 1 4. The method of claim 1, wherein the thermoregulating composition of matter is  
2 applied to at least 5 portions of the user's body.
- 1 5. The method of claim 1, wherein the amount of the thermoregulating composition  
2 of matter applied to the user ranges from about 0.2 to about 1 kilogram in weight.
- 1 6. The method of claim 3, wherein the amount of the thermoregulating composition  
2 of matter applied to the user ranges from about 0.1 to about 0.6 kilograms in weight.
- 1 7. The method of claim 4, wherein the amounts of the thermoregulating composition  
2 of matter applied to the user ranges from about 0.4 to about 1.2 kilograms in weight.
- 1 8. The method of claim 1, wherein the water in the thermoregulating composition is  
2 bound in solid or semi-solid form.

1 9. The method of claim 8, wherein the bound water of thermoregulating composition  
2 of matter undergoes a reaction that causes the water to convert to a liquid state.

1 10. The method of claim 8, wherein the bound water in the thermoregulating  
2 composition of matter undergoes a phase change to provide thermoregulation.

1 11. A method of improving the physical performance of a user through  
2 thermoregulation comprising the steps of:

3 (a) applying at least one packet containing a composition of matter comprising:  
4 cellulosic compound ranging from about 1% to about 3% by weight having an  
5 average molecular weight ranging between 90,000 and 700,000 represented by the  
6 formula:  $R-O-COOM$ , in which "M" is a metal substituted for hydrogen on said  
7 carboxyl group of the cellulosic compound and "R" is cellulosic chain;

8 a hydrated metallic salt ranging from about 0.1% to about 0.3% by weight; and  
9 water ranging from about 97% to about 99% by weight; and,

10 (b) performing physical exertion.

1 12. The method of claim 11, wherein said metal of said cellulosic compound is  
2 selected from the group comprising: lithium, sodium, potassium, rubidium and  
3 cesium.

1 13. The method of claim 11, wherein said metal of said cellulosic compound is  
2 sodium.

1 14. The method of claim 11, wherein said hydrated metallic salt is selected from the  
2 salt group consisting essentially of aluminum sulfate, zinc sulfate, indium sulfate,  
3 cadmium sulfate and gallium.

1 15. The method of claim 11, wherein the packet is constructed of permeable material.

1 16. The method of claim 11, wherein the composition of matter further includes a  
2 medicine, a vitamin, a mineral, a preservative, an odor eliminator, a scenting agent, a  
3 coloring agent or a skin moisturizer.

1 17. An article of clothing for wearing on the body of a user that improves the  
2 physical performance of the user through thermoregulation comprising:

3 (a) an article of clothing adapted for wearing on the body, the article having at  
4 least one pouch; and

5 (b) a thermoregulating composition of matter, located in the pouch, the  
6 composition of matter including:

7 a cellulosic compound ranging from about 1% to about 3% by weight having  
8 an average molecular weight ranging between about 90,000 and about 700,000  
9 represented by the formula: R--O--COOM, in which "M" is a metal substituted for  
10 hydrogen on said carboxyl group of the cellulosic compound and "R" is cellulosic  
11 chain;

12 a hydrated metallic salt ranging from about 0.1% to about 0.3% by weight, and  
13 water ranging from about 97% to about 99% by weight.

1 18. The article of claim 17, wherein the article is a hat.

1 19. The article of claim 17, wherein the article is a helmet.

1 20. The article of claim 17, wherein the article is a piece of head-gear that covers the  
2 scalp.

1 21. The article of claim 17, wherein the article is a strip.

1 22. The article of claim 17, wherein the article is a pair of shorts.

1 23. The article of claim 17, wherein the article is a pair of pants.

1 24. The article of claim 17, wherein the article is a garment that covers a user's torso.

- 1    25. The article of claim 24, wherein the article is a jacket.
- 1    26. The article of claim 25, wherein the article is a flak jacket.
- 1    27. The article of claim 17, wherein the article is used in the context of professional  
2    athletics equipment, military equipment, fire fighting equipment, police equipment,  
3    construction worker equipment, or mail carrier equipment.